

### HORSEPOWER FROM DYNAMOMETER LOADS—III

H. P. = horsepower.

N = number of revolutions per minute.

P = weight hung on brake arm or read on scale, in pounds,

L = distance from center of pulley to point where weight P is attached, in feet.

$$H. P. = \frac{2 \pi L P N}{33,000}$$

If L = 2 feet 7½ inches, this formula reduces to:

$$H. P. = \frac{NP}{2000}$$

The table gives the horsepower when L = 2 feet 7½ inches.

P	Revolutions per Minute = N																			
	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720
3	0.51	0.54	0.57	0.60	0.63	0.66	0.69	0.72	0.75	0.78	0.81	0.84	0.87	0.9	0.93	0.96	0.99	1.02	1.05	1.08
4	0.68	0.72	0.76	0.80	0.84	0.88	0.92	0.96	1.0	1.04	1.08	1.12	1.16	1.2	1.24	1.28	1.32	1.36	1.4	1.44
5	0.85	0.90	0.95	1.0	1.05	1.10	1.15	1.2	1.25	1.3	1.35	1.4	1.45	1.5	1.55	1.6	1.65	1.7	1.75	1.80
6	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44	1.5	1.56	1.62	1.68	1.74	1.8	1.86	1.92	1.98	2.04	2.1	2.16
7	1.19	1.26	1.33	1.4	1.47	1.54	1.61	1.68	1.75	1.82	1.89	1.96	2.03	2.1	2.17	2.24	2.31	2.38	2.45	2.52
8	1.36	1.44	1.52	1.60	1.68	1.76	1.84	1.92	2.0	2.08	2.16	2.24	2.32	2.4	2.48	2.56	2.64	2.72	2.8	2.88
9	1.54	1.63	1.72	1.8	1.89	1.98	2.07	2.16	2.25	2.34	2.43	2.52	2.61	2.7	2.79	2.88	2.97	3.06	3.15	3.24
10	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6
11	1.87	1.98	2.09	2.2	2.31	2.42	2.53	2.64	2.75	2.86	2.97	3.08	3.19	3.3	3.41	3.52	3.63	3.74	3.85	3.96
12	2.04	2.16	2.28	2.4	2.52	2.64	2.76	2.88	3.0	3.12	3.24	3.36	3.48	3.6	3.72	3.84	3.96	4.08	4.2	4.32
13	2.21	2.34	2.47	2.6	2.73	2.86	2.99	3.12	3.25	3.38	3.51	3.64	3.77	3.9	4.03	4.16	4.29	4.42	4.55	4.68
14	2.38	2.52	2.66	2.80	2.94	3.08	3.22	3.36	3.5	3.64	3.78	3.92	4.06	4.2	4.34	4.48	4.62	4.76	4.90	5.04
15	2.55	2.7	2.85	3.0	3.15	3.3	3.45	3.6	3.75	3.9	4.05	4.2	4.35	4.5	4.65	4.8	4.95	5.1	5.25	5.4
16	2.72	2.88	3.04	3.20	3.36	3.52	3.68	3.84	4.00	4.16	4.32	4.48	4.64	4.8	4.96	5.12	5.28	5.44	5.6	5.76
17	2.88	3.05	3.22	3.4	3.57	3.74	3.91	4.08	4.25	4.42	4.59	4.76	4.93	5.1	5.27	5.44	5.61	5.78	5.95	6.12
18	3.06	3.24	3.42	3.6	3.78	3.96	4.14	4.32	4.5	4.68	4.86	5.04	5.22	5.4	5.58	5.76	5.94	6.12	6.3	6.48
19	3.23	3.42	3.61	3.8	3.99	4.18	4.37	4.56	4.75	4.94	5.13	5.32	5.51	5.7	5.89	6.08	6.27	6.46	6.65	6.84
20	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.2
21	3.57	3.78	3.99	4.2	4.41	4.62	4.83	5.04	5.25	5.46	5.67	5.88	6.09	6.3	6.51	6.72	6.93	7.14	7.35	7.56
22	3.73	3.96	4.18	4.4	4.63	4.84	5.06	5.28	5.5	5.72	5.94	6.16	6.38	6.6	6.82	7.04	7.26	7.48	7.7	7.92
23	3.91	4.14	4.37	4.6	4.83	5.06	5.29	5.52	5.75	5.98	6.21	6.44	6.66	6.9	7.13	7.36	7.58	7.82	8.05	8.28
24	4.08	4.32	4.56	4.8	5.04	5.28	5.52	5.76	6.0	6.24	6.48	6.72	6.96	7.2	7.44	7.68	7.92	8.16	8.4	8.64
25	4.25	4.5	4.75	5.0	5.25	5.5	5.75	6.0	6.25	6.5	6.75	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
26	4.42	4.68	4.94	5.2	5.46	5.72	5.98	6.24	6.5	6.76	7.02	7.28	7.54	7.8	8.06	8.32	8.58	8.84	9.1	9.36
27	4.58	4.86	5.13	5.4	5.67	5.94	6.22	6.48	6.75	7.02	7.3	7.56	7.84	8.1	8.38	8.65	8.92	9.18	9.46	9.72
28	4.76	5.04	5.32	5.6	5.88	6.16	6.44	6.72	7.00	7.28	7.56	7.84	8.12	8.4	8.68	8.96	9.24	9.52	9.8	10.08
29	4.93	5.22	5.5	5.8	6.09	6.38	6.67	6.96	7.25	7.54	7.8	8.1	8.4	8.7	9.0	9.28	9.56	9.86	10.15	10.4
30	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6	9.9	10.2	10.5	10.8

Contributed by W. Riehl

No. 145, Data Sheet, MACHINERY, August, 1911

### STOCK FOR SCREW MACHINE PRODUCTS

Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000	Length of Piece and Cut-off Tool	Feet per 1000
0.050	4.2	0.240	20.2	0.430	36.1	0.620	52.1	0.810	68.1	1.000	84.0	1.380	116.0	1.760	147.9
0.055	4.6	0.245	20.6	0.435	36.6	0.625	52.5	0.815	68.5	1.010	84.9	1.390	116.8	1.770	148.7
0.060	5.0	0.250	21.0	0.440	37.0	0.630	52.9	0.820	68.9	1.020	85.7	1.400	117.6	1.780	149.6
0.065	5.5	0.255	21.4	0.445	37.4	0.635	53.4	0.825	69.3	1.030	86.6	1.410	118.5	1.790	150.4
0.070	5.9	0.260	21.8	0.450	37.8	0.640	53.8	0.830	69.7	1.040	87.4	1.420	119.3	1.800	151.3
0.075	6.3	0.265	22.3	0.455	38.2	0.645	54.2	0.835	70.2	1.050	88.2	1.430	120.2	1.810	152.1
0.080	6.7	0.270	22.7	0.460	38.7	0.650	54.6	0.840	70.6	1.060	89.1	1.440	121.0	1.820	152.9
0.085	7.1	0.275	23.1	0.465	39.1	0.655	55.0	0.845	71.0	1.070	89.9	1.450	121.8	1.830	153.8
0.090	7.6	0.280	23.5	0.470	39.5	0.660	55.5	0.850	71.4	1.080	90.8	1.460	122.7	1.840	154.6
0.095	8.0	0.285	23.9	0.475	39.9	0.665	55.9	0.855	71.8	1.090	91.6	1.470	123.5	1.850	155.5
0.100	8.4	0.290	24.4	0.480	40.3	0.670	56.3	0.860	72.3	1.100	92.4	1.480	124.4	1.860	156.3
0.105	8.8	0.295	24.8	0.485	40.8	0.675	56.7	0.865	72.7	1.110	93.3	1.490	125.2	1.870	157.1
0.110	9.2	0.300	25.2	0.490	41.2	0.680	57.1	0.870	73.1	1.120	94.1	1.500	126.1	1.880	158.0
0.115	9.7	0.305	25.6	0.495	41.6	0.685	57.6	0.875	73.5	1.130	95.0	1.510	126.9	1.890	158.8
0.120	10.1	0.310	26.1	0.500	42.0	0.690	58.0	0.880	73.9	1.140	95.8	1.520	127.7	1.900	159.7
0.125	10.5	0.315	26.5	0.505	42.4	0.695	58.4	0.885	74.4	1.150	96.6	1.530	128.6	1.910	160.5
0.130	10.9	0.320	26.9	0.510	42.9	0.700	58.8	0.890	74.8	1.160	97.5	1.540	129.4	1.920	161.3
0.135	11.3	0.325	27.3	0.515	43.3	0.705	59.2	0.895	75.2	1.170	98.3	1.550	130.3	1.930	162.2
0.140	11.8	0.330	27.7	0.520	43.7	0.710	59.7	0.900	75.6	1.180	99.2	1.560	131.1	1.940	163.0
0.145	12.2	0.335	28.2	0.525	44.1	0.715	60.1	0.905	76.0	1.190	100.0	1.570	131.9	1.950	163.9
0.150	12.6	0.340	28.6	0.530	44.5	0.720	60.5	0.910	76.5	1.200	100.8	1.580	132.8	1.960	164.7
0.155	13.0	0.345	29.0	0.535	45.0	0.725	61.0	0.915	76.9	1.210	101.7	1.590	133.6	1.970	165.5
0.160	13.4	0.350	29.4	0.540	45.4	0.730	61.3	0.920	77.3	1.220	102.5	1.600	134.5	1.980	166.4
0.165	13.9	0.355	29.8	0.545	45.8	0.735	61.8	0.925	77.7	1.230	103.4	1.610	135.3	1.990	167.2
0.170	14.3	0.360	30.3	0.550	46.2	0.740	62.2	0.930	78.2	1.240	104.2	1.620	136.1	2.000	168.1
0.175	14.7	0.365	30.7	0.555	46.6	0.745	62.6	0.935	78.6	1.250	105.0	1.630	137.0	2.050	172.3
0.180	15.1	0.370	31.1	0.560	47.1	0.750	63.0	0.940	79.0	1.260	105.9	1.640	137.8	2.100	176.5
0.185	15.5	0.375	31.5	0.565	47.5	0.755	63.4	0.945	79.4	1.270	106.7	1.650	138.7	2.150	180.7
0.190	16.0	0.380	31.9	0.570	47.9	0.760	63.9	0.950	79.8	1.280	107.6	1.660	139.5	2.200	184.9
0.195	16.4	0.385	32.4	0.575	48.3	0.765	64.3	0.955	80.3	1.290	108.4	1.670	140.3	2.250	189.1
0.200	16.8	0.390	32.8	0.580	48.7	0.770	64.7	0.960	80.7	1.300	109.2	1.680	141.2	2.300	193.3
0.205	17.2	0.395	33.2	0.585	49.2	0.775	65.1	0.965	81.1	1.310	110.1	1.690	142.0	2.350	197.5
0.210	17.6	0.400	33.6	0.590	49.6	0.780	65.5	0.970	81.5	1.320	110.9	1.700	142.9	2.400	201.7
0.215	18.1	0.405	34.0	0.595	50.0	0.785	66.0	0.975	81.9	1.330	111.8	1.710	143.7	2.450	205.9
0.220	18.5	0.410	34.5	0.600	50.4	0.790	66.4	0.980	82.4	1.340	112.6	1.720	144.5	2.500	210.1
0.225	19.0	0.415	34.9	0.605	50.8	0.795	66.8	0.985	82.8	1.350	113.4	1.730	145.4	2.550	214.3
0.230	19.3	0.420	35.3	0.610	51.3	0.800	67.2	0.990	83.2	1.360	114.3	1.740	146.2	2.600	218.5
0.235	19.7	0.425	35.7	0.615	51.7	0.805	67.6	0.995	83.6	1.370	115.1	1.750	147.1	2.650	222.7